

Notice of Allowability

Application No.

09/588,064

Examiner

Walter F Briney III

Applicant(s)

YEAP ET AL.

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to telephonic interview on 06 October 2004 and after final amendment filed 07 October 2004.
2. ☒ The allowed claim(s) is/are 1,2,4-9 and 11-16.
3. ☒ The drawings filed on 01 March 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. **Claims 1, 2, 4-9, and 11-16 are allowed.**

The following is an examiner's statement of reasons for allowance:

Claim 1 is limited to *a noise cancellation circuit for a communications channel*.

The rejection of claim 1 in the final rejection filed 09 June 2004 is overcome by the currently added limitation directed toward *a circuit element having a fixed capacitance*. As indicated in said rejection of claim 1, Overbury (US Patent 5,832,032) discloses a weighting element depicted in figure 10 as element (111), which incorporates complex components to adjust for phase and amplitude. Clearly, these elements are of a variable nature, thus the *fixed capacitance* is not anticipated, nor is there any suggestion to remove the ability to adjust the elements while maintaining the same functionality as indicated in the current invention. Thus, claim 1 is allowable over Overbury.

Claim 2 is limited to *a noise cancellation circuit for a communications channel*.

In particular, the combination of Bingel et al. (US Patent 6,173,021) and Eaton et al. (US Patent 4,287,475) with Overbury is no longer considered valid. In view of the telephonic interview held with the applicant's representative, Thomas Adams, on 06 October 2004 the addition of Overbury was made by impermissible hindsight. In particular, Bingel disclosed an RF interference canceller that made use of an adaptive sampling/scaling device (10). However, no details were provided. Eaton was combined to provide one plausible embodiment for detecting and removing noise. Overbury was combined with

the above two references to show how adaptive algorithms are updated in view of correlation measurements, but there is no suggestion why one would use correlation measurements in the adaptive algorithm taught by Eaton, which does not use a feedback and adaptive coefficients, it instead uses a fixed threshold that variably (i.e. adaptively) transmits noise bands to a noise canceling summing junction. Thus, claim 2 is allowable over the combination of Bingel, Eaton, and Overbury.

Claim 4 is dependent on claim 1, and is allowable for at least the same reasons.

Claim 5 is dependent on claim 15, and is allowable over the cited prior art for at least the same reasons.

Claims 6, 7, 13, and 14 are allowed for the same reasons indicated in the previous final rejection.

Claim 8 is allowable over the cited prior art for the same reasons as claim 1.

Claim 9 is allowable over the cited prior art for the same reasons as claim 2.

Claim 11 is dependent on claim 8, and is allowable for at least the same reasons.

Claim 12 is dependent on claim 16, and is allowable over the cited prior art for at least the same reasons.

Claims 15 and 16 include the limitations of claim 2 directed toward the adaptive filter and determining correlation between the common mode and differential signals for the purpose of controlling the adaptive filter, which have been shown to be allowable over the combination of Bingel, Eaton, and Overbury. Thus, claims 15 and 16 are allowable over the cited prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huyen Le can be reached on 703-305-4844. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB
1/7/05


XU MEI
PRIMARY EXAMINER